

CLAIMS

1. A process for the secured distribution of digital fixed pictures in the form of streams comprising sequences of data each containing a part of the information of the picture, which process comprises a stage for the modification of the original stream by modifying at least a part of these data sequences, which modification produces a stream modified in the same nominal format as the original stream, and which process comprises a stage for the transmission of the modified stream and a stage for reconstruction with the aid of a decoder in the addressed equipment, characterized in that the reconstruction is adaptive and progressive as a function of information coming from a digital profile of the addressed user.

2. The process for the secured distribution of digital fixed pictures according to Claim 1, characterized in that this modification produces a modified main stream and complementary information permitting the reconstruction of the original stream by a decoder, which process comprises a stage for the transmission of the modified stream and also comprises a stage for the transmission to the addressed equipment of a subset of this modification complementary information, which subset is determined as a function of information coming from a digital profile of the addressee.

3. The process for the secured distribution of digital fixed pictures according to Claim 1, characterized in that a modified main stream and complementary information permitting the reconstruction of the original stream by a decoder, which process comprises a stage for the transmission of the modified stream and also comprises a stage for the transmission to the addressed equipment of a subset of this modification complementary information, which subset is determined as a function of information coming from a hardware profile of the addressee.

4. The process for the secured distribution of digital fixed pictures according to one of Claims 1 to 3, characterized in that this original stream is coded in accordance with a process for coding in wavelets.

5. The process for the secured distribution of digital fixed pictures according to Claim 4, characterized in that this original stream has a property of scalability in resolution.

6. The process for the secured distribution of digital fixed pictures according to one of Claims 4 to 5, characterized in that this original stream has a property of spatial scalability.

7. The process for the secured distribution of digital fixed pictures according to one of Claims 4 to 6, characterized in that this original stream has a property of qualitative scalability.

8. The process for the secured distribution of digital fixed pictures according to one of Claims 4 to 7, characterized in that this original stream has a property of spectral scalability.

9. The process for the secured distribution of digital fixed pictures according to one of Claims 4 to 8, characterized in that the modified main stream is available on the addressed equipment prior to the transmission of the complementary information to the addressed equipment.

10. The process for the secured distribution of digital fixed pictures according to one of Claims 4 to 8, characterized in that part of the modified main stream is available on the addressed equipment prior to the transmission of the complementary information to the addressed equipment.

11. The process for the secured distribution of digital fixed pictures according to one of Claims 4 to 8, characterized in that the modified main stream and the complementary information are transmitted together in real time.

12. The process for the secured distribution of digital fixed pictures according to at least one of Claims 2 to 11, characterized in that the determination of this subset of this complementary information is based on the scalability properties of this original stream.

13. The process for the secured distribution of digital fixed pictures according to at least one of Claims 2 to 12, characterized in that the determination of this subset of this complementary information is based on the properties of granular scalability of this complementary information.

14. The process for the secured distribution of digital fixed pictures according to at least one of Claims 2 to 13, characterized in that the quantity of information contained in this subset corresponds to a level of scalability determined as a function of the profile of the addressee.

15. The process for the secured distribution of digital fixed pictures according to at least one of Claims 2 to 13, characterized in that the type of information contained in this subset corresponds to a level of scalability determined as a function of the profile of the addressee.

16. The process for the secured distribution of digital fixed pictures according to any one of Claims 2 to 15, characterized in that this complementary information comprises at least one digital routine suitable for executing a function.

17. The process for the secured distribution of digital fixed pictures according to Claim 16, characterized in that these functions transmitted to each addressee are personalized for each addressee as a function of the session.

18. The process for the secured distribution of digital fixed pictures according to any one of Claims 2 to 17, characterized in that this complementary information is encrypted for each addressee as a function of the session.

19. The process for the secured distribution of digital fixed pictures according to any one of Claims 2 to 18, characterized in that this complementary information is subdivided into at least two subparts.

20. The process for the secured distribution of digital fixed pictures according to Claim 19, characterized in that these subparts of the complementary information are distributed by different media.

21. The process for the secured distribution of digital fixed pictures according to Claim 19, characterized in that these subparts of the complementary information are distributed by the same medium.

22. The process for the secured distribution of digital fixed pictures according to at least one of Claims 2 to 21, characterized in that all or part of the complementary information is transmitted on a physical vector.

23. The process for the secured distribution of digital fixed pictures according to at least one of Claims 2 to 21, characterized in that the complementary information is transmitted on-line.

24. The process for the secured distribution of digital fixed pictures according to any one of Claims 2 to 23, characterized in that the type of information contained in this subset is updated as a function of the behavior of said addressee during the connection to the server or as a function of his habits or as a function of data communicated by a third party.

25. The process for the secured distribution of digital fixed pictures according to any one of Claims 2 to 24, characterized in that the quantity of information contained in this subset is updated as a function of the behavior of said addressee during the connection to the server or as a function of his habits or as a function of data communicated by a third party.

26. The process for the secured distribution of digital fixed pictures according to any one of the previous claims, characterized in that it comprises a prior stage of analog/digital conversion in a structured format, which process is applied to an analog signal.

27. The process for the secured distribution of digital fixed pictures according to any one of the previous claims, characterized in that it comprises a prior transcoding stage of a digital stream from any format to a format with scalability properties.

28. The process for the secured distribution of digital fixed pictures according to at least one of the previous claims, characterized in that these fixed pictures constitute a succession of pictures fixed in time.

29. The process for the secured distribution of digital fixed pictures according to Claim 28, characterized in that said modification of said data sequences is different for at least two pictures of said succession of pictures.

30. The process for the secured distribution of digital fixed pictures according to Claim 28 or 29, characterized in that this modification of these data sequences of a picture of said succession of pictures includes the modification of said data sequences of the preceding pictures in the temporal order of the succession based on the properties of spatial and qualitative scalability of the transformations in wavelets.

31. The process for the secured distribution of digital fixed pictures according to at least one of the previous claims, characterized in that the granular scalability of this complementary information constituted by said subsets is based on the qualitative, spatial and in-resolution scalabilities of the streams stemming from a transformation in wavelets of the pictures.

32. The process for the secured distribution of digital fixed pictures according to at least one of the previous claims, characterized in that it is without loss of quality.

33. The process for the secured distribution of digital fixed pictures according to any one of the previous claims, characterized in that during the reconstruction of this original stream an indelible and imperceptible trace is inserted into this original stream which trace carries a non-ambiguous identifier.

34. The process for the secured distribution of digital fixed pictures according to any one of the previous claims, characterized in that an indelible and imperceptible trace is inserted into the picture after reconstruction and decoding of this original stream, which trace carries a non-ambiguous identifier.

35. A process for the secured distribution of digital fixed pictures according to one of Claims 33 to 34, characterized in that this indelible and imperceptible trace can be detected by an adequate software that analyzes the reconstituted content.

36. A process for the secured distribution of digital fixed pictures according to one of Claims 33 to 35, characterized in that this non-ambiguous identifier authenticates the user.

37. A process for the secured distribution of digital fixed pictures according to one of Claims 33 to 35, characterized in that this non-ambiguous identifier authenticates the equipment on which the reconstruction algorithm of the original stream was executed.

38. A process for the secured distribution of digital fixed pictures according to one of Claims 33 to 35, characterized in that this non-ambiguous identifier identifies the session opened by the user during the course of which the reconstitution of the original stream is executed.

39. A process for the secured distribution of digital fixed pictures according to Claim 38, characterized in that the scrambling session and the descrambling session are realized under the control of a secured server playing the part of trusted third party.

40. A process for the secured distribution of digital fixed pictures according to Claim 38, characterized in that this session is identified by a secured server with a register comprising for each session information about the session number, the identifier of the user or the identifier of the user equipment, and the identifier of the content constituting the subject matter of the session and of a date-time group.

41. A process for the secured distribution of digital fixed pictures according to Claims 33 to 40, characterized in that a digital signature is calculated from the reconstituted stream, that the inserted trace generates a unique and different signature for each reconstituted stream and that this signature is stored on a secured server playing the part of trusted third party.

42. A process for the secured distribution of digital fixed pictures according to one of Claims 33 to 41, characterized in that the stream reconstituted by the descrambling has the same visual quality as the original stream and exists in a usable form only if it carries said trace.

43. A process for the secured distribution of digital fixed pictures according to one of Claims 33 to 42, characterized in that the stream reconstituted by the descrambling exists in a usable form only if the digital signature extracted during an authenticity control stage is identical to the signature stored on the secured server playing the part of trusted third party.

44. A process for the secured distribution of digital fixed pictures according to Claims 33 to 43, characterized in that this process is applied to an audiovisual digital stream stemming from a proprietary norm or standard.

45. A system for the secured distribution of fixed digital pictures comprising a server comprising means for broadcasting a modified stream in conformity with Claim 1, and a plurality of equipment provided with a descrambling circuit, characterized in that the server also comprises means for recording the digital profile of each addressee and means for analyzing the profile of each of the addressees of a modified stream, which means controls the nature of the complementary information transmitted to each of these addressees.

46. A system for the secured distribution of fixed digital pictures according to Claim 42, characterized in that the level (quality, quantity, type) of the complementary information is determined for each addressee as a function of the state of his profile at the moment of viewing the main stream.